



**FLORIDA
BUILDING
COMMISSION**

"STRONGER CODES THROUGH SCIENCE AND CONSENSUS"

Florida Department of
Business &
Professional
Regulation

**FACILITATOR'S SUMMARY REPORT OF THE
FEBRUARY 12, 2018
LIGHTNING PROTECTION WORKGROUP MEETING
JACKSONVILLE, FLORIDA**

PROCESS DESIGN, CONSENSUS-BUILDING AND FACILITATION BY



CONSENSUS CENTER

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FLORIDA BUILDING COMMISSION
LIGHTNING PROTECTION WORKGROUP
FEBRUARY 12, 2018 FACILITATOR’S MEETING SUMMARY REPORT

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**FLORIDA BUILDING COMMISSION
LIGHTNING PROTECTION WORKGROUP
FEBRUARY 12, 2018 FACILITATOR'S SUMMARY REPORT**



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"STRONGER CODES THROUGH SCIENCE AND CONSENSUS"

OVERVIEW OF WORKGROUP'S KEY ACTIONS AND DECISIONS

MONDAY, FEBRUARY 12, 2018

I. MEETING SUMMARY AND OVERVIEW

At the February 12, 2018 meeting the Workgroup: received a briefing on project relevant background information; identified key issue regarding lightning protection standards; and, reviewed member submitted options regarding lightning protection standards for the Florida Building Code, identified additional options, and acceptability rated all of the proposed options. There were no options that achieved a consensus level of support, and as a result there are no recommendations for changes. The Status Quo achieved the highest level of support at 53% in support (8-7 in support).

II. WELCOME AND INTRODUCTIONS

Jeff Blair, Commission Facilitator, welcomed Workgroup members, staff and the public to the second meeting of the *Lightning Protection Workgroup*.

WORKGROUP MEMBER ATTENDANCE

The following Workgroup members participated in the Monday, February 12, 2018 meeting:

John C. Barber, Joe Belcher, Eric Boettcher, Jay Carlson, Ken Castonovo, Mike Dillon, Kevin Flanagan, Shane Gerwig, Jeff Gross, Bryan Holland, Mark Morgan, David Rice, Brad Schiffer, Brian Swope, and Joseph Territo.

(15 of 15 Workgroup members participated)

(Attachment 1—Workgroup Membership)

Absent Members:

There were no members absent.

DBPR STAFF PRESENT

Robert Benbow, Tom Campbell, Jim Hammers, Chris Howell, Mo Madani, and Justin Vogel.

MEETING FACILITATION

The meeting was facilitated by Jeff Blair from the FCRC Consensus Center at Florida State University. Information at: <http://consensus.fsu.edu/>



CONSENSUS CENTER

PROJECT WEBPAGE

Information on the Florida Building Commission project, including agenda packets, meeting reports, and related documents may be found at the Commission Webpage. Located at the following URL: <http://floridabuilding.org/c/default.aspx>

III. AGENDA AND FACILITATOR'S SUMMARY REPORT APPROVAL

AGENDA REVIEW AND APPROVAL

The Workgroup voted unanimously, 15 - 0 in favor, to approve the agenda for the February 12, 2018 meeting as presented/posted. Following are the key agenda items approved for consideration:

- To Approve Regular Procedural Topics (Agenda, Minutes, and Procedural Guidelines)
- To Receive Briefing on Project Background Information
- To Identify Issues and Options Regarding FBC Lightning Protections Standards
- To Discuss and Evaluate Level of Acceptability of Proposed Options for FBC Lightning Protections Standards
- To Consider Public Comment
- To Identify Needed Next Steps: Information, Assignments, and Agenda Items for Next Meeting

Amendments to the Posted Agenda:

There were no amendments to the posted/presented Agenda.

(Attachment 2—February 12, 2018 Workgroup Agenda)

FACILITATOR'S SUMMARY REPORTS APPROVAL (JANUARY 18, 2018)

The Workgroup voted unanimously, 15 – 0 in favor, to approve the January 18, 2018 Facilitator's Summary Report as presented/posted.

Amendments to Report:

None were offered

IV. REVIEW OF PROCEDURAL ISSUES

Jeff Blair reviewed the Workgroup's decision-making and procedural policies and procedures noting they are the same as the Commission's, including the applicability of the Sunshine Law, and answered member's questions. Jeff noted that the Commission's workgroups and committees function using a consensus based decision-making process. General consensus is a participatory process whereby, on matters of substance, the members strive for agreements which all of the members can accept, support, live with or agree not to oppose. *In instances where, after vigorously exploring possible ways to enhance the members' support for the final decision on a recommendation, and the Workgroup finds that 100% acceptance or support is not achievable, final decisions will require at least 75% favorable vote of all members present and voting.* This super majority decision rule underscores the importance of actively developing consensus throughout the process on substantive issues with the participation of all members and which all can live with. In instances where the Workgroup finds that even 75% acceptance or support is not achievable, publication of recommendations will include documentation of the differences and the options that were considered for which there is more than 50% support from the Workgroup. Jeff noted that a more detailed review would be provided at the next meeting.

Sunshine Law Requirements Applicability to Workgroup Members

Jeff also explained that Workgroup members are subject to the requirements of Florida's Government in the Sunshine Law, commonly referred to as the Sunshine Law (Section 286.011 F.S.), and may not discuss with each other, outside of properly noticed meetings, issues that may foreseeably come before the Workgroup for discussion. The project Workplan is included as *Attachment 3* of this report.

(Attachment 3—Workgroup Workplan and Schedule)

V. OVERVIEW OF BACKGROUND AND REFERENCE MATERIALS AND IDENTIFICATION OF ANY NEEDED ADDITIONAL INFORMATION

Mo Madani, FBC Technical Manager, provided members with an overview of project relevant background information. In addition Mo noted that there are project relevant background documents linked to the Workgroup Agenda posted to the BCIS including:

- Section 553.72, F.S.;
- Section 553.73(9), F.S.;
- 2017 FBC Lightning Protection Provisions;
- Proposed Modification 640 with comments;
- Manufacturers Standard HBP-21;
- Master Specification ESE 12-20-17;
- Link to NFPA 780; and,
- Comments received during the June 13, 2017 Hearing on the 6th Edition (2017) FBC.

VI. IDENTIFICATION OF ISSUES FOR EVALUATION REGARDING FBC LIGHTNING PROTECTIONS STANDARDS

Members were asked whether there were any Key Issues that should be considered regarding Lightning Protection Standards for the Florida Building Code. It was determined that key issues would be discussed in the context of evaluating the various proposals.

VII. REVIEW, EVALUATION AND ACCEPTABILITY RANKING OF PROPOSED OPTIONS

Jeff Blair reviewed the initial list of options proposed by stakeholders to address lightning protection requirements for the Florida Building Code Update. A preliminary list of options was offered by participants between Meeting I and Meeting II. Jeff explained that the Workgroup would address each of the proposed options in turn, and that participants would be invited to propose any additional options and comment on existing options before the Workgroup members ranked them. Jeff explained that members would be asked to rank each proposed option in turn utilizing a four-point acceptability ranking scale where 4 = acceptable, 3 = minor reservations, 2 = major reservations, and 1 = unacceptable. Following discussion and refinement of options, members may be asked to do additional rankings of proposed options if requested by a *Workgroup* member. Members should be prepared to offer specific refinements to address their reservations. Once ranked, options with a 75% or greater number of 4's and 3's in proportion to 2's and 1's shall be considered consensus recommendations. The *Workgroup's* consensus recommendations will be submitted to the Commission for consideration.

During the February 12, 2018 meeting the Workgroup discussed pros and cons, received public comment, and acceptability ranked options proposed regarding FBC lightning protection requirements. The Facilitator reviewed the list of options proposed prior to the meeting and offered participants (public and members) an opportunity to offer additional options. All of the options proposed are included in the ranking results.

Following are all options ranked that have achieved a consensus level of support ($\geq 75\%$ in favor):

- **There were no options evaluated that achieved a consensus level of support.**

Following are the options ranked that did not achieve a consensus level of support ($\leq 75\%$ in favor):

- Option A: Status Quo. **[53% in favor]**
- Option B: Not Rated (conditioned on a favorable vote for a proposed code change).
- Option C: Chapter 27 requirement for all occupancies of the FBC-B (Modification 6460 with minor revisions). **[40% in favor]**
- Option D: Chapter 27 requirement for the uses and occupancies detailed in Chapter 4 of the FBC-B, with 10 exceptions. **[40% in favor]**
- Option E: Chapter 4 requirement for the uses and occupancies detailed in the Chapter, with 10 exceptions. **[40% in favor]**
- Option F: Chapter 4 requirement applying to the (9) medical-type uses and occupancies only (Section 449, 450, 451, 452, 457, 463, 464, 467, and 469). **[47% in favor]**
- Option G: A Lightning Risk Assessment shall be performed for any new building or addition by using the Lightning Risk Assessment in NFPA 780. **[27% in favor]**
- Combination Option C + H: (H: Add a non-exclusive list of accepted standards for each technology). **[20% in favor]**
- Option H: Not Rated Separately (conditioned on a favorable vote for a proposed code change).
- Option I: Not Rated (conditioned on a favorable vote for a proposed code change).

The complete list of options evaluated and the associated rating results are included as “Attachment 4.”

(Attachment 4—Options Evaluation Rating Results)

VIII. GENERAL PUBLIC COMMENT

Members of the public were offered an opportunity to provide comment during each of the Workgroup's substantive discussion agenda items. Following is a summary of general public comment.

Public Comments:

There was one additional public comment offered.

IX. NEXT STEPS

In light of the lack of consensus for a proposed revision to the lightning protection requirements of the Florida Building Code, and have evaluated the full range of options proposed, it was determined that there was not a need for the Workgroup to meet for an additional meeting.

ADJOURNMENT

The Facilitator thanked Workgroup members and the public for their participation, and following a unanimous vote in favor of adjournment, the meeting concluded at 2:13 P.M. on Monday, February 12, 2018.

**ATTACHMENT 1
WORKGROUP MEMBERSHIP**

WORKGROUP MEMBERSHIP	
MEMBER	AFFILIATION
1. John C. Barber	Electrical Industry Consultants
2. Joe Belcher	Homebuilders
3. Eric Boettcher	Electrical Engineers
4. Jay Carlson	General Contractors <i>(Commissioner)</i>
5. Ken Castonovo	Code Officials
6. Mike Dillon	Lightning Protection Contractors
7. Kevin Flanagan	Electrical Contractors <i>(Commissioner)</i>
8. Shane Gerwig	Code Officials <i>(Commissioner)</i>
9. Jeff Gross	Building Management Industry <i>(Commissioner)</i>
10. Bryan Holland	Electrical Product Manufacturers
11. Mark Morgan	Lightning Equipment Industry
12. David Rice	Electrical Engineers
13. Brad Schiffer	Architects <i>(Commissioner)</i>
14. Brian Swope	Roofing Contractors <i>(Commissioner)</i>
15. Joseph Territo	Electrical Contractors
DBPR STAFF	
Tom Campbell	Executive Director
Chris Howell	Administrative Staff
Mo Madani	Technical Manager
Justin Vogel	FBC Legal Counsel
FACILITATOR	
Jeff Blair	FCRC Consensus Center at Florida State University



**ATTACHMENT 2
FEBRUARY 12, 2018 MEETING AGENDA**

**FLORIDA BUILDING COMMISSION
LIGHTNING PROTECTION WORKGROUP
FEBRUARY 12, 2018—MEETING II**

**EMBASSY SUITES BY HILTON
9300 BAYMEADOWS ROAD—JACKSONVILLE, FLORIDA**

MEETING OBJECTIVES

- To Approve Regular Procedural Topics (Agenda, Minutes, and Procedural Guidelines)
- To Receive Briefing on Project Background Information
- To Identify Issues and Options Regarding FBC Lightning Protections Standards
- To Discuss and Evaluate Level of Acceptability of Proposed Options for FBC Lightning Protections Standards
- To Consider Public Comment
- To Identify Needed Next Steps: Information, Assignments, and Agenda Items for Next Meeting

MEETING AGENDA—MONDAY, FEBRUARY 12, 2018

All Agenda Times—including Adjournment—are Approximate and Subject to Change

9:00 AM	1.)	WELCOME, INTRODUCTIONS AND ROLL CALL
	2.)	AGENDA REVIEW AND APPROVAL
	3.)	APPROVAL OF MINUTES AND FACILITATOR’S SUMMARY REPORT (January 18, 2018)
	4.)	REVIEW OF COMMISSION’S WORKGROUP MEETING GUIDELINES, CONSENSUS-BUILDING AND DECISION-MAKING PROCESS, AND SUNSHINE REQUIREMENTS
	5.)	BRIEFING ON PROJECT BACKGROUND INFORMATION <ul style="list-style-type: none"> • Documentation from June 13, 2017 Hearing to the 6th Edition. • List of Available Lightning Protection Standards. • Information Presentation(s) Regarding Available Lightning Protections Standards and Technologies (Optional).
	6.)	IDENTIFICATION OF ISSUES FOR EVALUATION REGARDING FBC LIGHTNING PROTECTIONS STANDARDS <ul style="list-style-type: none"> • Review of Initial Key Issues • Identification & Agreement on Key Issues for Workgroup Evaluation
	7.)	IDENTIFICATION, DISCUSSION AND EVALUATION OF OPTIONS IN TURN
	8.)	GENERAL PUBLIC COMMENT
	9.)	NEXT STEPS: AGENDA ITEMS, NEEDED INFORMATION, ASSIGNMENTS, DATE AND LOCATION
	10.)	<i>ADJOURN</i>

ATTACHMENT 3
WORKGROUP SCOPE AND WORKPLAN

- Objective:** Discuss and provide recommendations to the Commission regarding the following:
- (a) Whether lightning protection requirements should be included in the future update to the Florida Building Code; and if yes,
 - (b) Formulate a proposed code change language that takes into consideration available lightning protection standards and technologies.

WORKGROUP SCHEDULE		
TASK	DATE	STATUS
Appoint Workgroup members	10/10/17	Completed
Workgroup Orientation—Meeting I (Tallahassee/Teleconference)	1/1/18	Completed
Submittal Date for proposed options	1/25/18	Completed
Submittal Date for Workgroup Member presentations	2/2/18	Completed
Workgroup Options Evaluation—Meeting II (Jacksonville)	2/12/18	Completed
Workgroup Final Recommendations—Meeting III (Orlando)	4/18/18	[Not Needed]

ATTACHMENT 4
OPTION EVALUATION RESULTS

A. [Barber and Territo] Status Quo Proposals.

[Barber] No changes to FBC. Lightning Protection should NOT be mandatory for newly constructed buildings no matter what square foot except for what is already mandated by existing FBC standards. Hospitals, AHCA regulated facilities, Schools and others mandate by the Lightning Risk Assessment guide of NFPA 780.

[Territo] I do not believe lightning protection should be required by code as suggested:

- It will mandate an unnecessary financial burden on Floridians, both consumers and government.
- Require additional licensing, permitting, and inspections.
- Mandates often take common sense out of the equation leaving only the financial burden.
- The necessity/efficacy of lightning rods cannot be stated with certainty.
- Methods/materials should not be limited to only one.

Status Quo	AVERAGE RATING	4—Acceptable	3—Minor Reservations	2—Major Reservations	1—Not Acceptable
<i>Initial Rating</i>	53%	8	0	2	5

B. [Barber] – Not Rated

NO mandate for Lightning Protection for all buildings, but add Approval of all systems and technologies (Faraday conventional and Early Streamer Emission) to Florida Building Code as acceptable options for Owners and Engineer, Architects to choose from.

C.) [Holland] Chapter 27 requirement for all occupancies of the FBC-B (Modification 6460 with minor revisions). [Add: to charging statement: or other approved methods or technologies]

Chapter 27

NEW – Section 2703 Lightning Protection

2703.1 Lightning Protection. A lightning protection system shall be provided for all new buildings and additions in accordance with NFPA 780, *Standard for the Installation of Lightning Protection Systems*.

2703.2 Where additions are constructed to existing buildings, the existing building’s lightning protection system, if present, shall be interconnected to the new lightning protection system.

2703.3 Surge-protective devices (SPDs) shall be installed in accordance with NFPA 70, *National Electrical Code*, as required by NFPA 780, *Standard for the Installation of Lightning Protection Systems*.

Exceptions:

1. One- and two-family dwellings
2. Lightning protection shall not be required for any building or addition where determined to be unnecessary by evaluation using the *Risk Assessment Guide* in NFPA 780, *Standard for the Installation of Lightning Protection Systems* or an alternative method approved by the authority having jurisdiction.

	AVERAGE RATING	4—Acceptable	3—Minor Reservations	2—Major Reservations	1—Not Acceptable
<i>Initial Rating</i>	40%	5	1	1	8

D.) [Holland] Chapter 27 requirement for the uses and occupancies detailed in Chapter 4 of the FBC-B, with 10 exceptions. [Add: to charging statement: or other approved methods or technologies]

Chapter 27

NEW – Section 2703 Lightning Protection

2703.1 Lightning Protection. A lightning protection system shall be provided for all new buildings and additions in accordance with NFPA 780, *Standard for the Installation of Lightning Protection Systems*. The requirements of this section apply to the special uses and occupancies detailed in Chapter 4 of this code.

2703.2 Where additions are constructed to existing buildings, the existing building’s lightning protection system, if present, shall be interconnected to the new lightning protection system.

2703.3 Surge-protective devices (SPDs) shall be installed in accordance with NFPA 70, *National Electrical Code*, as required by NFPA 780, *Standard for the Installation of Lightning Protection Systems*.

Exceptions:

1. The following special uses and occupancies:
 - 1.1. Section 405: Underground buildings
 - 1.2. Section 409: Motion picture projection rooms
 - 1.3. Section 416: Drying rooms
 - 1.4. Section 418: Organic coatings
 - 1.5. Section 426: Hyperbaric facilities
 - 1.6. Section 454: Swimming pools and bathing places
 - 1.7. Section 458: Manufactured buildings
 - 1.8. Section 460: Mausoleums and columbariums
 - 1.9. Section 462: Use of asbestos in new public buildings or buildings newly constructed for lease to government entities—prohibition
 - 1.10. Section 465: Control of radiation hazards
2. Lightning protection shall not be required for any building or addition where determined to be unnecessary by evaluation using the *Risk Assessment Guide* in NFPA 780, *Standard for the Installation of Lightning Protection Systems* or an alternative method approved by the authority having jurisdiction.

	AVERAGE RATING	4—Acceptable	3—Minor Reservations	2—Major Reservations	1—Not Acceptable
Initial Rating	40%	5	1	1	8

E.) [Holland] Chapter 4 requirement for the uses and occupancies detailed in the Chapter, with 10 exceptions. [Add: to charging statement: or other approved methods or technologies]

Chapter 4

NEW – Section 401.3 Lightning Protection

401.3 Lightning Protection.

401.3.1 A lightning protection system shall be provided for all new buildings and additions in accordance with NFPA 780, *Standard for the Installation of Lightning Protection Systems*. The requirements of this section apply to the special uses and occupancies described herein.

401.3.2 Where additions are constructed to existing buildings, the existing building’s lightning protection system, if present, shall be interconnected to the new lightning protection system.

401.3.3 Surge-protective devices (SPDs) shall be installed in accordance with NFPA 70, *National Electrical Code*, as required by NFPA 780, *Standard for the Installation of Lightning Protection Systems*.

Exceptions:

3. The following special uses and occupancies:
 - 3.1. Section 405: Underground buildings
 - 3.2. Section 409: Motion picture projection rooms

- 3.3. Section 416: Drying rooms
- 3.4. Section 418: Organic coatings
- 3.5. Section 426: Hyperbaric facilities
- 3.6. Section 454: Swimming pools and bathing places
- 3.7. Section 458: Manufactured buildings
- 3.8. Section 460: Mausoleums and columbariums
- 3.9. Section 462: Use of asbestos in new public buildings or buildings newly constructed for lease to government entities—prohibition
- 3.10. Section 465: Control of radiation hazards

4. Lightning protection shall not be required for any building or addition where determined to be unnecessary by evaluation using the *Risk Assessment Guide* in NFPA 780, *Standard for the Installation of Lightning Protection Systems* or an alternative method approved by the authority having jurisdiction.

	AVERAGE RATING	4—Acceptable	3—Minor Reservations	2—Major Reservations	1—Not Acceptable
Initial Rating	40%	5	1	1	8

F.) [Holland] Chapter 4 requirement applying to the (9) medical-type uses and occupancies only (Section 449, 450, 451, 452, 457, 463, 464, 467, and 469). [Add: to charging statement: or other approved methods or technologies]

Chapter 4

MODIFIED & NEW Sections – Lightning Protection

4xx.x Lightning Protection.

4xx.x

A lightning protection system shall be provided for all new buildings and additions in accordance with NFPA 780, *Standard for the Installation of Lightning Protection Systems*.

4xx.x

Where additions are constructed to existing buildings, the existing building’s lightning protection system, if present, shall be interconnected to the new lightning protection system.

4xx.x

Surge-protective devices (SPDs) shall be installed in accordance with NFPA 70, *National Electrical Code*, as required by NFPA 780, *Standard for the Installation of Lightning Protection Systems*.

Exception:

Lightning protection shall not be required for any building or addition where determined to be unnecessary by evaluation using the *Risk Assessment Guide* in NFPA 780, *Standard for the Installation of Lightning Protection Systems* or an alternative method approved by the authority having jurisdiction.

Applicable Sections:

- Section 449: Hospitals
- Section 450: Nursing homes
- Section 451: Ambulatory surgical centers
- Section 452: Birthing centers
- Section 457: Mental health programs
- Section 463: Adult day care
- Section 464: Assisted living facilities
- Section 467: Hospice inpatient facilities and units and hospice residences.
- Section 469: Office surgery suite

	AVERAGE RATING	4—Acceptable	3—Minor Reservations	2—Major Reservations	1—Not Acceptable
Initial Rating	40%	5	1	1	8

G.) [Morgan]

Section 2703 Lightning Protection

2703.1 A Lightning Risk Assessment shall be performed for any new building or addition by using the Lightning Risk Assessment in NFPA 780, *Standard for the Installation of Lightning Protection Systems* or an alternative method approved by the authority having jurisdiction.

2703.2 If the Lightning Risk Assessment indicates that a lightning protection system should be installed, then a lightning protection system shall be provided for all new buildings and additions in accordance with NFPA 780, *Standard for the Installation of Lightning Protection Systems* and UL 96A, *Installation Requirements for Lightning Requirement*

2703.3 Where additions are constructed to existing building, the existing building's lightning protection system, if connected to the new lightning protection system, shall be inspected and brought into compliance with current standards.

2703.4 Surge protection devices shall be installed for all normal and emergency electrical systems in accordance with NFPA 70, *National Electrical Code*.

Exceptions:

1. One- and two-family dwellings.

	AVERAGE RATING	4—Acceptable	3—Minor Reservations	2—Major Reservations	1—Not Acceptable
Initial Rating	27%	2	2	2	9

H.) [Barber] Only if a requirement is recommended for approval – Not Rated

If lightning protection is mandated and added to FBC for newly constructed buildings, then ALL systems and technologies available should be allowed using accepted installation standards for each system . The following are accepted standards for each technology. Do not create monopoly for only one type of system or technology. Allow owners and engineers to choose which is best for the structure it is protecting.

- a. UL 96A CONVENTIONAL
- b. NFPA 780 CONVENTIONAL
- c. HBP-21 EARLY STREAMER EMISSION
- d. PROPOSED NFPA 781 STANDARD FOR EARLY STREAMER EMISSION SYSTEMS
- e. UL 96A FOR STREAMER RETARDING AIR TERMINAL SYSTEMS
- f. NFC-17-102 French Standard for Early Streamer Emission systems

I.) [Barber] Only if a requirement is recommended for approval – Not Rated

In conjunction with lightning protection, if lightning protection systems are mandated for all buildings within parameters, then all electrical panels, distribution panels, sub panels, and all low voltage systems SHALL HAVE SURGE PROTECTION. The damages and risks of direct strike damage to a structure is much less than damages to electrical equipment from a nearby strike or surges generated from lightning.

C.+H.) Combination of Option C+H (non-exclusionary list of systems and technologies):

	AVERAGE RATING	4—Acceptable	3—Minor Reservations	2—Major Reservations	1—Not Acceptable
Initial Rating	20%	2	1	3	9